Montana Natural Heritage Program

1515 East Sixth Avenue, Helena, MT 59620-1800 (406) 444-3009

Animal Species of Special Concern

March, 1997

Introduction

The Montana Natural Heritage Program (MTNHP) maintains an inventory of the elements of biological diversity in Montana. The inventory focuses on plant species, animal species, plant communities, and biological features that are rare, endemic, disjunct, threatened, or endangered throughout their range or in Montana, vulnerable to extirpation from Montana, or in need of further research.

The attached list of animal species of special concern in Montana is used to direct data acquisition by MTNHP, and to provide information to others on the current status of these species. It has been developed largely from information in the scientific literature, unpublished reports, agency databases, field research, and field inventories. This information comes from a variety of cooperating local, state and federal agencies, private organizations and businesses, academic researchers, and interested individuals.

Background information was obtained from sources such as Vertebrate Species of Special Interest or Concern (Flath 1984, 1995), P. D. Skaar's Montana Bird Distribution (Montana Bird Distribution Committee 1996), Fishes of Montana (Brown 1971), the USFWS' "Animal Candidate Review for Listing as Endangered or Threatened Species" (61 FR 7596, Feb. 28, 1996), and from scientific literature, personal contacts, museum specimens, and MTNHP staff research.

This list is dynamic and is periodically revised as new data becomes available. Changes to the list since the most recent edition (Reichel 1996) are highlighted for quick reference. Printed revisions are produced annually, while regularly-updated versions are available from our office or via our home page at http://nris.mt.gov/mtnhp.

Written comments and suggestions are continually needed on this list, particularly regarding recommended additions or deletions. New location information for any of these taxa is also being solicited. MTNHP can supply current location information and status data for most of these taxa.

Heritage Program Ranks

Taxa are evaluated and ranked by the Heritage Program on the basis of their global (range-wide) status, and their state-wide status. These ranks are used to determine protection and data collection priorities, and are revised as new information becomes available.

A scale of 1 (critically imperiled) to 5 (demonstrably secure) is used for these ranks, and each species is assigned the appropriate combination of global (G) and state (S) ranks. Example: Merriam's shrew = G5 / S3 (i.e., species is demonstrably secure globally; in Montana is found within a restricted range).

Global and state ranks are assigned according to a standardized procedure used by all Natural Heritage Programs (The Nature Conservancy 1992), and are briefly defined below.

Rank Definition

- G1 S1 Critically imperiled because of extreme rarity (5 or fewer occurrences, or very few remaining individuals), or because of some factor of its biology making it especially vulnerable to extinction.
- G2 S2 Imperiled because of rarity (6 to 20 occurrences), or because of other factors demonstrably making it very vulnerable to extinction throughout its range.
- G3 S3 Either very rare and local throughout its range, or found locally (even abundantly at some of its locations) in a restricted range, or vulnerable to extinction throughout its range because of other factors; in the range of 21 to 100 occurrences.
- G4 S4 Apparently secure, though it may be quite rare in parts of its range, especially at the periphery.
- G5 S5 Demonstrably secure, though it may be quite rare in parts of its range, especially at the periphery.
- GU SU Possibly in peril, but status uncertain; more information needed.
- GH SH Historically known; may be rediscovered.
- GX SX Believed to be extinct; historical records only, continue search.

Other Heritage Codes

- A Accidental in the state; including species (usually birds or butterflies) recorded very infrequently, hundreds or thousands of miles outside their usual range.
- B A state rank modifier indicating breeding status for a migratory species. Example: S1B,SZN breeding occurrences for the species are ranked S1 (critically imperiled) in the state, nonbreeding occurrences are not ranked in the state.
- E An exotic established in the state; may be native in nearby regions.
- HYB Element represents a hybrid of species
- N A state rank modifier indicating non-breeding status for a migratory species. Example: S1B,SZN breeding occurrences for the species are ranked S1 (critically imperiled) in the state, nonbreeding occurrences are not ranked in the state.
- P Indicates the element may potentially occur in the state.
- Q Taxonomic questions or problems involved, more information needed; appended to the global rank.
- R Reported in the state; but lacking documentation which would provide a basis for either accepting or rejecting the report.
- T Rank for subspecific taxon (subspecies, variety, or population); appended to the global rank for the full species.
- Z Ranking not applicable.
- # A modifier to SX or SH; the species has been reintroduced but the population is not yet established.

Montana Fish, Wildlife & Parks Status

These codes give the state legal status of vertebrates as defined in the The Nongame and Endangered Species Conservation Act (Mont. Code Ann. § 87-5-101 1995).

- GA Game animal
- NG Nongame wildlife
- GF Game fish
- E Endangered
- P Protected species
- U Unprotected species
- FB Fur bearing animal
- MB Migratory bird
- UB Upland game bird

Management Status

- CS Closed season
- RH Restricted harvest

Fish and Wildlife Service Status

The symbols in this column denote the categories defined in the U.S. Fish and Wildlife Service Notice of Review (1980, 1983, 1985, 1990, 1993, 1996) and indicate the status of a taxon under the federal Endangered Species Act of 1973 (16 U.S.C.A. § 1531-1543 (Supp. 1996)).

Categories are listed below:

- LE listed endangered
- LT listed threatened
- PE proposed endangered
- PT proposed threatened
- C candidate--substantial information exists in U.S. Fish and Wildlife Service files on biological vulnerability to support proposals to list as endangered or threatened.
- NL not listed/no designation (see note below)
- XN non-essential experimental population

Note: The categories C2, 3B and 3C are no longer maintained by the USFWS (61 FR 7596, Feb. 28, 1996).

A species can have more than one federal designation if the species' status varies within its range. In these instances the Montana designation is listed first. Example: LELT = species is listed as endangered in Montana; elsewhere in its range it is listed threatened.

Forest Service Status

The status of species on Forest Service lands as defined by the U.S. Forest Service manual (2670.22). These taxa are listed as such by the Regional Forester (Northern Region) on National Forests in Montana. The Forest Service lists species as either:

- E Endangered, federally listed as Endangered (LE)
- T Threatened, federally listed as Threatened (LT)
- S Sensitive, animal species identified by the Regional Forester for which population viability is a concern as evidenced by significant downward trend in population or a significant downward trend in habitat capacity.

Bureau of Land Management Status

The status of species on Bureau of Land Management lands as defined by the BLM 6840 Manual.

SS Special Status, federally listed Endangered,
Threatened, or Candidate species or other rare or
endemic species that occur on BLM lands.

Changes from the June, 1996 List

Modifications to global and state ranks are the result of changes in either our knowledge of the species or actual changes in population status.

Additions

The Blue-gray Gnatcatcher (Polioptila caerulea) is added based on a recent discovery of a small breeding population in south-central Montana. Gillette's Checkerspot (Euphydryas gillettii) is added resulting from new information regarding its relatively rare status range-wide. Quite a few dragonflies, damselflies and mollusks were added as a result of recent reports by specialists in those groups (Frest and Johannes 1995, Miller and Gustafson 1996).

Deletions

No species were deleted this year.

Watch List Species

These species are not currently known to meet the criteria of the Species of Special Concern. They are on the Watch List for one or more of the following reasons: (1) there are indications that they may be less common than currently thought; (2) they are currently declining in Montana or across much of their range; (3) there is so little information available that we cannot adequately rank them; and (4) they are not known to have established breeding populations in Montana, but are known from states/ provinces near their border with Montana and if they occur in Montana they would be Species of Special Concern.

While not actively soliciting information for these species, we are accumulating data as it is received for possible re-ranking of these species.

Fish

Hybognathus argyritis Western silvery minnow Hybognathus placitus Plains minnow Hybopsis gracilis Flathead chub

Amphibians

Ascaphus truei
Tailed frog
Bufo boreas
Western toad
Bufo cognatus
Great plains toad
Spea intermontana
Great basin spadefoot

Reptiles

Sceloporus graciosus Sagebrush lizard Eumeces skiltonianus Western skink

Birds

Ardea herodias
Great blue heron
Lagopus leucurus
White-tailed ptarmigan
Tyto alba
Barn owl
Otus asio
Eastern screech-owl
Otus kennicottii
Western screech-owl

Birds (continued)

Surnia ulula
Northern hawk owl
Selasphorus platycercus
Broad-tailed hummingbird
Lanius ludovicianus
Loggerhead shrike
Vermivora peregrina
Tennessee warbler
Mniotilta varia
Black-and-white warbler
Amphispiza belli
Sage sparrow

Mammals

Myotis yumanensis Yuma myotis Sylvilagus floridanus Eastern cottontail Spilogale putorius Eastern spotted skunk Spilogale gracilis Western spotted skunk

Tanypteryx hageni

Insects

Black petaltail
Cordulegaster dorsalis
Pacific spiketail
Gomphus externus
Plains clubtail
Ophiogomphus occidentis
Sinuous snaketail
Aeshna canadensis
Canada darner
Aeshna constricta
Lance-tipped darner
Aeshna multicolor
Blue-eved darner

Aeshna sitchensis

Zigzag darner

Insects (continued)

Aeshna tuberculifera Black-tipped darner Macromia illinoiensis Illinois river cruiser Somatochlora minor Ocellated emerald Libellula composita Bleached skimmer Libellula nodisticta Hoary skimmer Pantala flavescens Wandering glider Sympetrum madidum Red-veined meadowhawk Lestes forcipatus Sweetflag spreadwing Argia fumipennis violacea A damselfly Argia alberta Paiute dancer

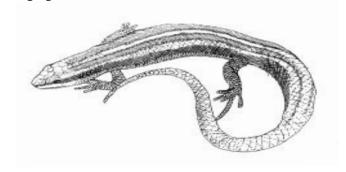
Coenagrion angulatum

Prairie bluet
Enallagma civile
Familiar bluet
Enallagma clausum
Alkali bluet

Arigomphus cornutus Horned clubtail

Mollusks

Radiodiscus abietum Fir pinwheel Polygyrella polygyrella Humped coin Udosarx lyrata lyrata Lyre mantleslug Promenetus exacuous megas Prairie sprite



Selected References

- Brown, C. J. D. 1971. Fishes of Montana. Montana State University, Bozeman. 207 pp.
- Flath, D. L. 1984. Vertebrate species of special interest or concern. Montana Department of Fish, Wildlife and Parks. Helena. 76 pp.
- Flath, D. L. 1995. Species of special interest or concern. [Species list]. 7 pp. Montana Department of Fish, Wildlife and Parks, Helena, Montana.
- Frest, T. J. and E. J. Johannes. 1995. Interior Columbia Basin mollusk species of special concern. Final report to the Interior Columbia Basin Ecosystem Manage ment Project, Walla Walla, WA. Contract #43-0E00-4-9112. 274 pp. plus appendices.
- Holton, G. D., and H. E. Johnson. 1996. A field guide to Montana fishes. Second Edition. Mont. Dept. Fish, Wildl. Parks, Helena. 104 pp.
- Miller, K. B. and D. L. Gustafson. 1996. Distribution of the Odonata of Montana. Bulletin of American Odonatology 3(4):75-88.
- Montana Bird Distribution Committee. 1996. P. D. Skaar's Montana bird distribution. Fifth edition. Special Publication No. 3, Montana Natural Heritage Program, Helena. 129 pp.

- Reichel, J. D. 1996. Montana animal species of special concern. [Unpublished list.] Montana Natural Heritage Program, Helena. 11 pp.
- Reichel, J. D. and D. Flath. 1995. Identification of Montana's amphibians and reptiles. Montana Outdoors 26(3):15-34.
- The Nature Conservancy, Conservation Science Divison, in association with the Network of Natural Heritage Programs and Conservation Data Centers. October 1992. Biological and Conservation Data System (Supplement 2+, released March, 1994). Arlington, Virginia.
- Thompson, L. S. 1982. Distribution of Montana amphibians, reptiles, and mammals. Montana Audubon Council, Helena. 24 pp.
- U.S. Fish and Wildlife Service. 1996. Animal Candidate Review for Listing as Endangered and Threatened Species. 61 FR 7596, February 28, 1996.
- U.S. Fish and Wildlife Service. 1993. Endangered and threatened wildlife and plants. 50 CFR 17.11 & 17.12, August 23, 1993. U. S. Govt. Printing Office: 1993-342-477/94033. 40 pp.

More Information

Extensive additional information, including location data, is available on all species listed here. MTNHP serves as a clearinghouse for information on species of special concern in the state, and each year responds to hundreds of data requests.

Electronic access to MTNHP is available through the World Wide Web at http://nris.mt.gov/mthnp and via e-mail at mtnhp@nris.mt.gov.

The preferred citation for this document is:

Reichel, J. D. 1997. Montana animal species of special concern. [Unpublished list.] Montana Natural Heritage Program, Helena. 9 pp.

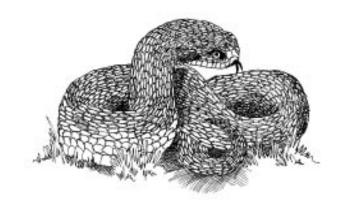


Fish

Species	Global	State	FWP	FWS	FS	BLM
Cottus confusus Shorthead sculpin	G5	S3	NG		S	
Cottus rhotheus Torrent sculpin	G5	S2	NG		S	
Cottus ricei Spoonhead sculpin	G5	S1	NG			
Acipenser transmontanus White sturgeon (Kootenai Ri	G4T1Q ver only)	S1	GFRH	LE	S	
Scaphirhynchus albus Pallid sturgeon	G1G2	S1	GFRH	LE	Е	
Polyodon spathula Paddlefish	G4	S3	GFRH			
Lepisosteus platostomus Shortnose gar	G5	S1	NG			SS
Oncorhynchus clarki bouvieri Yellowstone cutthroat trout	G4T2	S2	GF		S	SS
Oncorhynchus clarki lewisi Westslope cutthroat trout	G4T3	S3	GF		S	SS
Oncorhynchus mykiss gibbsi Interior redband trout	G5T?	S2	GF		S	
Salvelinus confluentus Bull trout	G3	S3	GFRH	С	S	
Thymallus arcticus montanus Montana arctic grayling	G5T2	S1	GFRH	С	S	
Phoxinus eos x Phoxinus neogaeus Northern redbelly x Finescal	HYB e dace	S3	NG			SS
Hybopsis gelida Sturgeon chub	G2	S2	NG	C		
Hybopsis meeki Sicklefin chub	G3	S1	NG	C		
Semotilus margarita Pearl dace	G5	S2	NG			SS
Cycleptus elongatus Blue sucker	G3	S3?	NG			
Percopsis omiscomaycus Trout-perch	G5	S1	NG			

Amphibians

Species	Global	State	FWP	FWS	FS	BLM
Plethodon idahoensis Coeur d'Alene salamander	G3	S2	NG		S	SS
Dicamptodon aterrimus Idaho giant salamander	G4	SR	NG			
Bufo hemiophrys Canadian toad	G4	S1	NG			SS
Rana pipiens Northern leopard frog	G5	S3S4	NG			
Rana sylvatica Wood frog	G5	SR	NG			SS



Reptiles

Species	Global	State	FWP	FWS	FS	BLM
Chelydra serpentina Snapping turtle	G5	S3	NG			SS
Trionyx spiniferus Spiny softshell	G5	S 3	NG			SS
Heterodon nasicus Western hognose snake	G5	S3?	NG			
Lampropeltis triangulum Milk snake	G5	S2	NG			
Opheodrys vernalis Smooth green snake	G5	S2S3	NG			

Birds

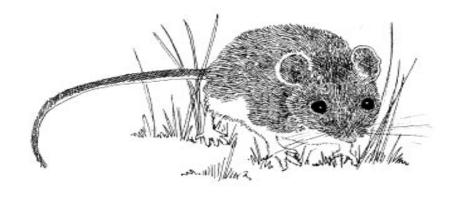
Species	Global	State	FWP	FWS	FS	BLM
Gavia immer Common loon	G5	S1S2B,SZN	P		S	SS
Aechmophorus clarkii Clark's grebe	G5	S2S4B,SZN	P			
Pelecanus erythrorhynchos American white pelican	G3	S2B,SZN	P			
Nycticorax nycticorax Black-crowned night-heron	G5	S2S3B,SZN	P			
Plegadis chihi White-faced ibis	G5	S1B,SZN	P			
Cygnus buccinator Trumpeter swan	G4	S2B,S2N	MB		S	
Histrionicus histrionicus Harlequin duck	G4	S2B,SZN	MB		S	
Haliaeetus leucocephalus Bald eagle	G4	S3B,S3N	P	LTLE	E	
Accipiter gentilis Northern goshawk	G4G5	S3S4	P			
Buteo regalis Ferruginous hawk	G4	S3B,SZN	P		S	
Falco peregrinus Peregrine falcon	G4	S1S2B,SZN	E	E/SA	E	
Tympanuchus phasianellus columbianus Columbian sharp-tailed grou	G4T3	S1	UB		S	
Coturnicops noveboracensis Yellow rail	G4	S1B,SZN	MBCS			
Grus americana Whooping crane	Gl	SZN	E	LE	Е	
Charadrius melodus Piping plover	G3	S2B,SZN	P	LTLE	T	
Charadrius montanus Mountain plover	G2	S2B,SZN	P	С	S	
Himantopus mexicanus Black-necked stilt	G5	S2B,SZN	P			
Larus pipixcan Franklin's gull	G5	S3B,SZN	P			

Birds (continued)

Species Species	Global	State	FWP	FWS	FS	BLM
Sterna caspia Caspian tern	Ct5	S2B,SZN	Р			
Sterna hirundo Common tern	C5	S3B,SZN	P			
Sterna forsteri Forster's tern	C5	S2B,SZN	P			
Sterna antillarum athalassos Interior least tern	G4T2Q	S1B,SZN	P	LENL		
Chlidonias niger Black tern	G4	S3B,SZN	P			
Coccyzus americanus Yellow-billed cuckoo	G5	S3B,SZN	P			
Otus flammeolus Flammulated owl	G4	S2S3B,SZN	P		S	SS
Speotyto cunicularia Burrowing owl	G4	S3B,SZN	P			SS
Strix nebulosa Great gray owl	G5	S3	P			SS
Aegolius funereus Boreal owl	G5	S3S4	P		S	SS
Cypseloides niger Black swift	G4	S3B,SZN	P			
Picoides arcticus Black-backed woodpecker	G5	S3	P		S	SS
Empidonax alnorum Alder flycatcher	G5	S1B,SZN	P			
Tyrannus vociferans Cassin's kingbird	G5	S1S3B,SZN	P			
Polioptila caerulea Blue-gray gnatcatcher	G5	S1B,SAN	P			
Spiza americana Dickcissel	G5	S1S2B,SZN	P			SS
Ammodramus bairdii Baird's sparrow	G3G4	S3S4B,SZN	P			
Ammodramus leconteii LeConte's sparrow	G4?	S1S2B,SZN	P			SS
Ammodramus nelsoni Sharp-tailed sparrow	C5	S1B,SZN	P			

Mammals

Species	Global	State	FWP	FWS	FS	BLM
Sorex preblei Preble's shrew	G4	S3	NG			
Sorex nanus Dwarf shrew	G4	S3	NG			
Sorex merriami Merriam's shrew	G5	S3	NG			SS
Myotis thysanodes Fringed myotis	G5	S3	NG			
Myotis septentrionalis Northern myotis	G4	S2	NG			
Euderma maculatum Spotted bat	G4	S1	NG		S	
Corynorhinus townsendii Townsend's big-eared bat	G4	S2S3	NG		S	SS
Antrozous pallidus Pallid bat	G5	S1	NG		S	
Lepus californicus Black-tailed jack rabbit	G5	S2S3	NG			
Brachylagus idahoensis Pygmy rabbit	G5	S2S3	NG			
Tamias umbrinus Uinta chipmunk	G5	S3?	NG			
Cynomys ludovicianus Black-tailed prairie dog	G4	S3S4	NG			SS
Cynomys leucurus White-tailed prairie dog	G4	S2	NG		S	
Perognathus parvus Great basin pocket mouse	G5	S2S4	NG			
Chaetodipus hispidus Hispid pocket mouse	G5	S1	NG			
Synaptomys borealis Northern bog lemming	G4	S2	NG		S	SS
Zapus hudsonius Meadow jumping mouse	G5	S2S3	NG			SS



Mammals (continued)

Species	Global	State	FWP	FWS	FS	BLM
Canis lupus Gray wolf	G4	S1	E	LEXN LTNL	Е	
Vulpes velox Swift fox	G3	S1	FBCS	C		
Ursus arctos horribilis Grizzly bear	G4T3	S1S2	GARH	LTNL	T	
Martes pennanti Fisher	G5	S2	FBRH		S	SS
Mustela nigripes Black-footed ferret	Gl	SH#	E	XNLE	E	
Gulo gulo luscus North American wolverine	G4T4	S2	FBRH			
Felis lynx Lynx	G5	S2	FBRH		S	
Rangifer tarandus caribou Woodland caribou	G5T3	SX	GACS		Е	

Insects

Beetles

Species	Global	State	FWP	FWS	FS	BLM
Zaitzevia thermae Warm spring zaitzevian r	Gl iffle beetle	S1		С		
Microcylloepus browni Brown's microcylloepus	Gl riffle beetle	S1				

Butterflies

Species	Global	State	FWP	FWS	FS	BLM
Phyciodes batesii Tawny crescent	G3G4	S2S3				
Euphydryas gillettii	C3	S 3				
Gillette's checkerspot						

Mayflies

Species	Global	State	FWP	FWS	FS	BLM
Caenis youngi	G3	S2				
A mayfly						

Dragonflies and Damselflies

Species	Global	State	FWP	FWS	FS	BLM
Erpetogomphus designatus Eastern ringtail	G5	S1				
Aeshna subarctica Subarctic darner	G5	S1S2				
Somatochlora albicincta Ringed emerald	G5	S1S3				
Somatochlora walshii Brush-tipped emerald	G5	S1S2				
Erythemis collocata Western pondhawk	C5	S1S2				
Leucorrhinia borealis Boreal whiteface	C5	S1				
Coenagrion interrogatum Subarctic bluet	G5	S1S2				
Enallagama optimolocus Last, best damselfly	G1G3	S1S3				

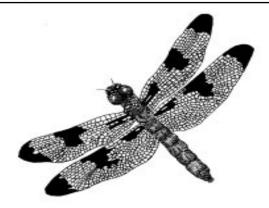
Stoneflies

Species	Global	State	FWP	FWS	FS	BLM
Isocapnia crinita A stonefly	GU	S2				
Isocapnia integra A stonefly	G2	S2				
Utacapnia columbiana A stonefly	GU	S2				
Lednia tumana Meltwater lednian stonefly	Gl	S1				
Zapada cordillera A stonefly	GU	S2				
Zapada glacier Western glacier stonefly	Gl	S1				
Isoperla petersoni A stonefly	GU	S2?				

Caddisflies

8

Species	Global	State	FWP	FWS	FS	BLM
Rhyacophila alexanderi Alexander's rhyacophilan c	G2 addisfly	S2				
Rhyacophila ebria A caddisfly	G1?	S1?				
Rhyacophila newelli A rhyacophilan caddisfly	G2?	S2?				
Rhyacophila glacieri A rhyacophilan caddisfly	Gl	S1				
Agapetus montanus An agapetus caddisfly	G2?	S2?				



Mollusks

Snails and Slugs (Gastropods)

Species	Global	State	FWP	FWS	FS	BLM
Discus shimeki Striate disc	G4	S1				
Discus brunsoni	GH	SH				
Mission range disc						
Hemphillia danielsi Marbled jumping-slug	G1G3	S1S3				
Magnipelta mycophaga Spotted slug	G2G3	S1S3				
Zacoleus idahoensis Sheathed slug	G3G4	S1S2				
Oreohelix alpina Alpine mountainsnail	GH	SH				
Oreohelix amariradix Bitterroot mountainsnail	G1G2	S1S2				
Oreohelix carinifera Keeled mountainsnail	Gl	S1				
Oreohelix elrodi Carinate mountainsnail	Gl	S1				
Oreohelix strigosa berryi Berry's mountainsnail	G4T2	S1S2				
Oreohelix yavapai mariae Gallatin mountainsnail	Gl	S1				
Oreohelix sp 3 Bearmouth mountainsnail	G1G2	S1S2				
Oreohelix sp 4 Drummond mountainsnail	Gl	S1				
Oreohelix sp 5 Brunson mountainsnail	G1G2	S1S2				
Oreohelix sp 6 Kintla lake mountainsnail	Gl	S1				
Oreohelix sp 7	G1G2	S1S2				
Kitchen creek mountainsnail						
Oreohelix sp 10	G1G3	S1S3				
Missoula mountainsnail						

Snails and Slugs (continued)

CLL	G	EUD	EWG	EC	DIA
		FWP	FWS	FS	BLM
Gl	S1				
G1G2	S1S2				
Gl	S1				
G3G4	S1				
Gl	S1				
G2G3	SX				
G?	S1				
Gl	S1				
Gl	S1				
G3	S1S3				
G2?	S1S3				
G3	S1				
	Global Gl GlG2 Gl G3G4 Gl G2G3 G? Gl G1 G2 G1 G2 G2 G1 G2 G2 G2 G2 G2 G2 G2 G2	Global State Gl S1 GlG2 S1S2 Gl S1 G3G4 S1 Gl S1 G2G3 SX G? S1 Gl S1 Gl S1 G2G3 S1 G3 S1S3 G2? S1S3	Global State FWP Gl S1 GlG2 S1S2 Gl S1 G3G4 S1 Gl S1 G2G3 SX G? S1 Gl S1 Gl S1 G2 S1S3 G2? S1S3	Global State FWP FWS Gl S1 S1 G1G2 S1S2 Gl S1 S1 G3G4 S1 Gl S1 G2G3 SX G? S1 G1 S1 Gl S1 G3 S1S3 G2? S1S3 S1S3	Global State FWP FWS FS Gl S1 S1 G1G2 S1S2 S1 G3G4 S1 S1 G1 S1 G2G3 SX G? S1 G1 S1 G1 S1 G3 S1S3 G2? S1S3 S1S3 G2? S1S3 S1S4 S1S4 S1S4 S1S4

